

REMARKS

I. STATUS OF THE CLAIMS

Claims 1-30 are pending in this application. Claims 1-22 have been canceled. New claims 31-34 have been added. Claims 23-30 stand rejected under 35 U.S.C. §§112, second paragraph, and/or 103(a). Claims 23, 26, and 27 have been amended. Claim 23 has been amended to recite that the pores of the claimed nanoframes are on the {111} face and not the {110}. Support for this amendment can be found throughout the specification, and particularly at page 4, lines 19-21 and in Figure 1. Claims 26 and 27 have been amended to correct typographical errors. Claims 31-34 have been added to recite nanoframes that have been backfilled with a metal, such as silver or gold. Support for these claims can be found throughout the specification, and in particular at page 7, line 8 – page 8, line 7. No new matter has been introduced with this amendment.

The claims were subject to a restriction requirement (group I, claims 1-22, directed to a method of making nanoframes, and group II, claims 23-30, directed to nanoframes). Applicants provisionally elected group II, with traverse. Applicants withdraw traversal of the restriction requirement, but reserve the right to pursue the unelected subject matter in a continuing application. Therefore, claims 1-22 have been canceled from this application, and claims 23-30 are currently pending.

II. REJECTION UNDER 35 U.S.C. §112, SECOND PARAGRAPH SHOULD BE WITHDRAWN

Claims 26 and 27 stand rejected under 35 U.S.C. § 112, 2nd paragraph as being indefinite. Specifically, claim 26 stands rejected for improper antecedent basis for the term “the nanoprism,” and claim 27 for the term “the metal.” Claim 26 has been amended to recite “nanoframe” instead of “nanoprism,” and claim 27 has been amended to depend from claim 26 instead of claim 23. In view of the amendments to claims 26 and 27, this rejection has been overcome and should be withdrawn.

II. REJECTION UNDER 35 U.S.C. §103(A) SHOULD BE WITHDRAWN

Claims 23-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Xia et al. U.S. Patent Publication No. 2005/0056118 (“Xia”) in view of Haes et al., *J. Am. Chem.*

Soc. 124:10596 (2002) (“Haes”). Applicants respectfully traverse this rejection and present the following remarks.

No combination of Xia and Haes establishes a *prima facie* case of obviousness of the pending claims. Under MPEP §§ 2142 and 2143, to establish a case of obviousness, three criteria must be met. First, there must be a suggestion or motivation in the references cited or in the general knowledge of the art to modify the references or combine the teachings of the references. Second, there must be a reasonable expectation for success (i.e., that the proposed modification or combination would work). Third, the proposed combination of references must teach or suggest all of the claim limitations.

The Patent Office’s position that Xia discloses nanoprisms as those claimed in the present application is incorrect. Specifically, the portions of Xia which the Patent Office cites disclose etching of nanocubes to form templates. As stated in [0063] of Xia and supported in the accompanying figures, the hollowed nanostructures of Xia have a multitude of pores, which are formed in an isotropic fashion, as evidenced by the formation of pores indiscriminately on all faces of the nanostructures (see e.g., Xia, FIG. 7, 9B, 11L, 11M, and 12E). In fact, Xia discloses a preference for forming pores indiscriminately on all faces of the nanostructures (see, e.g., Xia Example 8, [0091]-[0099]). In contrast, the nanoframes disclosed and claimed in the present application have a pore formed using an anisotropic etching process along the nanoframe’s {111} face. This difference between the presently claimed nanoframes and Xia also can be seen in a comparison of Xia FIG. 7A and Applicants’ Figure 1 (second structure, produced from Step A). Additionally, Xia teaches away from the presently claimed nanoframes, as the Xia nanostructures are etched in the following order of reactivity: {110}, {100}, then {111} faces (see Xia [0060]). The presently claimed nanoframes recite that the pore is found through the {111} and free of pores through the {110} face.

Furthermore, Haes does not overcome the deficiencies of Xia. Haes merely discloses triangular nanostructures. The reference does not disclose pore formation, let alone selective pore formation along the {111} face. Moreover, there is no motivation within either Xia or Haes to modify their teachings to arrive at the presently claimed nanoframes. Because there is no motivation or disclosure of all elements of the claims of the present application, it is submitted that this rejection may properly be withdrawn.

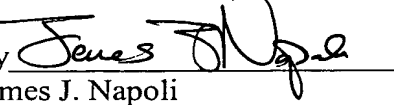
III. CONCLUSION

It is submitted that the claims are now in a form and scope for allowance. An early and favorable action on the merits is respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter of form in an effort to advance this application toward allowance, the examiner is urged to telephone the undersigned at the indicated number.

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Respectfully submitted,

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